UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 1, 2009

Vice President, Operations
Entergy Nuclear Operations, Inc.
James A. FitzPatrick Nuclear Power Plant
P.O. Box 110
Lycoming, NY 13093

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - RELIEF REQUEST VRR-06, REVISION 1 FROM THE REQUIREMENTS OF THE OM CODE RE: INSERVICE TESTING OF SAFETY RELIEF VALVES (TAC NO. ME1818)

Dear Sir or Madam:

By letter dated July 31, 2009, as revised by letter dated September 4, 2009, Entergy Nuclear Operations, Inc. (Entergy or the licensee) submitted a request to the Nuclear Regulatory Commission (NRC) for the use of alternatives to certain American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) requirements at James A. FitzPatrick Nuclear Power Plant (JAFNPP).

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(i), the licensee requested to use the proposed alternative for inservice testing (IST) of the safety relief valves (SRVs) on the basis that the alternative provides an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(f)(4)(iv), the licensee also requested to use later code editions and addenda for IST items subject to the limitations and modifications listed in 10 CFR 50.55a(b).

As set forth in the enclosed safety evaluation, the NRC staff determines that the proposed alternative described in Relief Request VRR-06, Revision 1, provides an acceptable level of quality and safety and provides reasonable assurance that the SRVs are operationally ready. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i) and 10 CFR 50.55a(f)(4)(iv) for the portions of the later ASME OM Code edition and addenda, and is in compliance with the ASME OM Code's requirements.

Therefore, the NRC staff authorizes the proposed alternative in Relief Request VRR-06, Revision 1, on the basis that the alternative provides an acceptable level of quality and safety, and approves the use of ASME OM Code Mandatory Appendix I, Subparagraph I-3410(d) of the 2004 Edition of the ASME OM Code for IST items, subject to the limitations and modifications listed in 10 CFR 50.55a(b) at JAFNPP for the remainder of the fourth 10-year IST interval that began on October 1, 2007.

All other ASME OM Code requirements for which relief was not specifically requested and approved, remain applicable.

Please contact Project Manager, Bhalchandra K. Vaidya at (301-415-3308, if you have any questions.

Sincerely,

John P. Boska for

Nancy L. Salgado, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosure:
Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST NO. VRR-06 REGARDING PROPOSED ALTERNATIVE AND

USE OF A LATER EDITION OF ASME OM CODE FOR

INSERVICE TESTING OF SAFETY RELIEF VALVES 02RV-71A, B, C, D, E, F, G, H, J, K, L

ENTERGY NUCLEAR OPERATIONS, INC.

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

By letter dated July 31, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092160412), as supplemented by letter dated September 4, 2009 (ADAMS Accession No. ML092530249), Entergy Nuclear Operations, Inc. (Entergy or the licensee) submitted a request to the Nuclear Regulatory Commission (NRC) for the use of alternatives to certain American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) requirements at James A. FitzPatrick Nuclear Power Plant (JAFNPP) for inservice testing (IST) of safety/relief valves (SRVs) 02RV-71A, B, C, D, E, F, G, H, J, K, and L at James A. FitzPatrick Nuclear Power Plant (JAFNPP). The licensee also requested NRC approval to use a portion of a later edition of the ASME OM Code for the JAFNPP.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(i), the licensee requested to use the proposed alternative on the basis that the alternative provides an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(f)(4)(iv), the licensee also requested to use a portion of a later code editions and addenda for IST items subject to the limitations and modifications listed in 10 CFR 50.55a(b).

2.0 REGULATORY EVALUATION

10 CFR 50.55a(f), "Inservice testing requirements," requires, in part, that ASME Class 1, 2, and 3 components must meet the requirements of the ASME OM Code and applicable addenda, except where alternatives have been authorized pursuant to paragraphs (a)(3)(i) and (a)(3)(ii) of 10 CFR 50.55a.

Enclosure

In proposing alternatives, a licensee must demonstrate that the proposed alternative provides an acceptable level of quality and safety or compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Section 50.55a authorizes the NRC to approve alternatives to ASME OM Code requirements upon making necessary findings. NRC guidance contained in NUREG-1482 Revision 1, "Guidance for Inservice Testing at Nuclear Power Plants," provides alternatives to ASME Code requirements which are acceptable.

10 CFR 50.55a(f)(4)(iv) states that IST of pumps and valves may meet the requirements set forth in later editions and addenda of the ASME OM Code provided that they are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b), and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met. Currently, 10 CFR 50.55a(b)(3) incorporates by reference the 1995 through the 2004 Edition of the ASME OM Code.

3.0 TECHNICAL EVALUATION

3.1 The Licensee's Relief Request and Alternative

3.1.1 The Licensee's Request for Alternative

ASME OM Code Mandatory Appendix I, Subparagraph I-1320(a), "Test Frequencies, Class 1 Pressure Relief Valves," 2001 Edition through 2003 Addenda, requires that Class 1 pressure relief valves be tested at least once every 5 years. The licensee proposed an alternative test interval for JAF SRVs 02RV-071A, B, C, D, E, F, G, H, J, K, and L. In Revision 1 to Request VRR-06, the licensee proposes to test each SRV on a 72-month (with a 6-month grace period) interval. According to the licensee, each SRV will be given a dimensional inspection followed by refurbishment if required prior to the start of each 72-month test interval.

3.1.2 The Licensee's Request for the use of a Later Edition of the ASME OM Code

The Code of record for the JAF IST program is the 2001 Edition through 2003 Addenda of the ASME OM Code. ASME OM Code Mandatory Appendix I, Subparagraph I-3410(d) of the 2001 Edition through 2003 Addenda of the ASME OM Code requires that Class 1 SRVs with auxiliary actuating devices that have been maintained or refurbished in place, removed for maintenance and testing, or both, and reinstalled be remotely actuated at reduced or normal system pressure to verify open and close capability of the valve before resumption of electric power generation.

Subparagraph I-3410(d) was revised in the 2004 Edition of the ASME OM Code to not require that SRVs be opened and closed at reduced or normal system pressure following maintenance. Subparagraph I-3410(d) in the 2004 Edition of the ASME OM Code requires that each SRV that has been removed for maintenance or testing and reinstalled shall have the electrical and pneumatic connections verified either through mechanical/electrical inspection or test prior to the resumption of electric power generation. The licensee is requesting NRC approval to use Subparagraph I-3410(d) of the 2004 Edition of the ASME OM Code to test JAF SRVs 02RV-071A, B, C, D, E, F, G, H, J, K, and L in place of Subparagraph I-3410(d) of the 2001 Edition through 2003 Addenda of the ASME OM Code. The licensee stated that although changes were issued to other paragraphs in the 2004 Edition of the ASME OM Code, review of these

changes identified no changes related to the requirements for ASME OM Code 2004 Edition, Mandatory Appendix I, Subparagraph I-3410(d).

The licensee also stated that opening and closing SRVs 02RV-071A, B, C, D, E, F, G, H, J, K, and L at reduced or normal system pressure when installed in the plant can cause seat leakage. Past history indicates that the main disks may not reseat properly, resulting in steam leakage into the suppression pool. This leakage results in a decrease in plant performance and the potential for increased suppression pool temperature which could force a plant shutdown to repair a leaking SRV.

3.2 NRC Staff Evaluation

3.2.1 Technical Evaluation of the Licensee's Alternative

The ASME developed Code Case OMN-17, "Alternative Rules for Testing ASME Class 1 Pressure Relief/Safety Valves." The ASME has approved Code Case OMN-17 and plans to publish Code Case OMN-17 in the upcoming edition/addenda of the ASME OM Code. Code Case OMN-17 allows extension of the test frequency for SRVs from 60 months to 72 months plus a 6-month grace period. The code case imposes a special maintenance requirement to disassemble and inspect each valve to verify that parts are free from defects resulting from the time-related degradation or maintenance-induced wear prior to the start of the extended test frequency. Although the ASME OM Code does not require that SRVs be routinely refurbished, refurbishment provides reasonable assurance that the SRVs are operationally ready during the extended test interval. Consistent with the special maintenance requirement in Code Case OMN-17, the licensee stated that critical dimensions will be measured during the inspection of each SRV and the SRV will be refurbished if required prior to the start of each 72-month test interval.

The NRC staff finds that the proposed alternative test frequency of 72 months plus a 6-month grace period for the JAF SRVs in Revision 1 to Request VRR-06 is acceptable. Inspection of each SRV to verify that parts are free from defects resulting from the time-related degradation or maintenance-induced wear prior to the start of the extended test frequency provides reasonable assurance that the SRVs are operationally ready during the extended test interval.

3.2.2 NRC Staff Evaluation of the Use of a Later Edition of the ASME OM Code

The licensee has determined that opening and closing the JAF SRVs can contribute to undesirable seat leakage during subsequent plant operation. This is consistent with the NRC staff position in Section 4.3.2.1, "Boiling Water Reactor Safety/Alternative Valve Stoke Testing," of NUREG-1482, Revision 1, which states that the NRC staff has authorized alternatives related to testing requirements for main steam SRVs following maintenance activities because testing contributes to undesirable seat leakage. Furthermore, Subparagraph I-3410(d) of Mandatory Appendix I of the ASME OM Code was revised in 2004 in order to eliminate the potential for undesirable seat leakage during subsequent plant operation.

The 2004 Edition of the ASME OM Code was incorporated by reference into 10 CFR 50.55a(b) on September 10, 2008 (73 FR 52730) as corrected on October 2, 2008 (73 FR 57235), and became effective on October 10, 2008, subject to certain limitations and modifications. The regulations in 10 CFR 50.55a(f)(4)(iv) state that IST of pumps and valves may meet the

requirements set forth in later editions and addenda of the ASME OM Code that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b), and subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met. The NRC staff has identified no related requirements that would also need to be met to implement Subparagraph I-3410(d) of Mandatory Appendix I of the 2004 Edition of the ASME OM Code for the conduct of SRV testing. Use of the 2004 Edition of the ASME OM Code for the conduct of SRV testing was approved for use by the NRC staff in the September 10, 2008, Final Rule and is therefore acceptable for use at JAFNPP.

4.0 CONCLUSION

As set forth in the enclosed safety evaluation, the NRC staff determines that the proposed alternative described in Relief Request VRR-06, Revision 1, provides an acceptable level of quality and safety and provides reasonable assurance that the SRVs are operationally ready. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i) and 10 CFR 50.55a(f)(4)(iv) for the portions of the later ASME OM Code edition and addenda, and is in compliance with the ASME OM Code's requirements.

Therefore, the NRC staff authorizes the proposed alternative in Relief Request VRR-06, Revision 1, on the basis that the alternative provides an acceptable level of quality and safety, and approves the use of ASME OM Code Mandatory Appendix I, Subparagraph I-3410(d) of the 2004 Edition of the ASME OM Code for IST items, subject to the limitations and modifications listed in 10 CFR 50.55a(b) at JAFNPP for the remainder of the fourth 10-year IST interval that began on October 1, 2007.

All other ASME OM Code requirements for which relief was not specifically requested and approved, remain applicable.

Principal Contributor: S. Tingen

Date: October 1, 2009

All other ASME OM Code requirements for which relief was not specifically requested and approved, remain applicable.

Please contact Project Manager, Bhalchandra K. Vaidya at (301-415-3308, if you have any questions.

Sincerely,

JBoska ***/RA/ for***

Nancy L. Salgado, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosure:
Safety Evaluation

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